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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/724,685      | 12/02/2003  | Takeshi Nakano       | 008312-0306986      | 1970             |

909 7590 03/16/2007  
PILLSBURY WINTHROP SHAW PITTMAN, LLP  
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MCLEAN, VA 22102

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| EXAMINER |
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HALEY, JOSEPH R

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2627

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 03/16/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/724,685 | <b>Applicant(s)</b><br>NAKANO ET AL. |  |
|                              | <b>Examiner</b><br>Joseph Haley      | <b>Art Unit</b><br>2627              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2 and 3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ijima et al. (US 6597642) in view of Akiyama (US 4344165).

In regard to claims 2 and 3, Ijima et al. teaches a disk apparatus which reproduces information by irradiating an optical beam to a disk, the disk apparatus comprising: a photodetector which comprises two or more photodetection cells (fig. 4), receives a reflected light from a disk, and outputs a photodetection signal based on the received reflected light; a first tracking error signal generator which detects a phase difference between the photodetection signals from the photodetector, and generates a first tracking error signal corresponding to the phase difference (fig. 1 element 30); a first amplifier which amplifies the first tracking error signal (see fig. 11); a second tracking error signal generator which detects a level difference between the photodetection signals from the photodetector, and generates from the photodetection signal a second tracking error signal corresponding to the level difference (fig. 1 element 29); a second amplifier which amplifies the second tracking error signal (fig. 10); a combining unit which combines the first and second tracking error signals generated by the first and second amplifiers, and provides a combined tracking error

signal (fig. 1 element 301); a muting unit which mutes one of the first and second tracking error signals when the amplitude of one of the tracking error signals is lower than a predetermined reference (column 8 lines 50-55) (fig. 1 element 302, Ijima uses a switch to cut off the signal of two of the amplifiers), and a tracking control unit which controls tracking by using the tracking error signal combined by the combining unit (fig. 1 element 301); however, does not teach wherein the amplifiers are variable.

Akiyama teaches a variable amplifier (fig. 3 element 18).

The two are analogous art because they both deal with the same field of invention of tracking in optical disc systems.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Ijima with the variable amplifier of Akiyama. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ijima with the variable amplifier of Akiyama because the output could then be controlled to a specific level according to the specifications of certain parts.

### ***Response to Arguments***

Applicant's arguments filed 12/21/06 have been fully considered but they are not persuasive. In regard to applicant's arguments on page 5, paragraph 3, applicant argues that Ijima does not teach combining different tracking error signals. The examiner points to fig. 1 element 301 where 3 tracking error signals are combined. The judgement circuit receives all 3 tracking error signals and makes a determination as to which signal exceeds the threshold value. It then sends a signal to the selection circuit to control the selection circuit. In the present invention the tracking error signals are fed

to a CPU and a determination is made in the CPU whether to mute the 1<sup>st</sup> or 2<sup>nd</sup> gain control amplifier. In the Ijima reference the determination is made in the judgement circuit, which is the same as the CPU.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jrh



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